REMARKS

Applicant submits the following remarks in response to the Office Action mailed June 25, 2007. In that Office Action, all the pending claims, claims 1-7, were rejected on the basis of a single reference. In particular, claims 1-7 stand rejected as anticipated by US Patent No. 6,509,865 to Takai ("Takai"). As explained in more detail below, Takai fails to disclose all the elements required by the only independent claim, claim1, and therefore cannot anticipate all the pending claims. Accordingly, Applicant respectfully requests reconsideration of the claim rejection and submits this application is in condition for allowance.

Independent claim 1 is directed to a wireless communication apparatus (that communicates with a base station) including i) an adaptive antenna, ii) a receiving portion for receiving a control signal to control directivity of said adaptive antenna, transmitted from said base station; and iii) a control portion for controlling the directivity of said adaptive antenna to be a beam steering or a null steering based on the control signal. Takai fails to disclose each of those elements. Particularly, fails to disclose, inter alia, a wireless communication apparatus having an adaptive antenna and a control signal that is transmitted from the base station to a receiving portion of the wireless communication apparatus.

Independent Claim 1 Is Not Anticipated By Takai

Takai fails to disclose a wireless communication apparatus having an adaptive antenna. Rather, Takai discloses an adaptive antenna that is associated with the base station, not the wireless communication apparatus as required by claim 1. To that end Takai explains the following:

> An adaptive antenna device to which this invention is applicable comprises a plurality of antenna arrays and **a base station apparatus coupled to the antenna arrays.** Each of the antenna arrays has a plurality of antenna elements spatially arranged. According to an aspect of this invention, **the base station apparatus comprises combining means for forming a directivity pattern** which is combined by varying an amplitude and a phase of each radio signal received by and transmitted from the antenna elements so that radio energy is increased towards a designated range and a designated direction of a communication radio wave and is cancelled in parallel towards a range and a direction of a jamming wave. The combining means comprises beam steering antenna pattern control means for forming a narrow beam to control an antenna gain so that a maximum portion of the antenna gain is directed to a received direction of the communication radio wave, null steering antenna pattern control means for carrying out a control operation such that an antenna gain has a null portion direct a received direction of the jamming wave and concurrently has a high gain portion of the antenna gain direct the received direction of the communication radio wave, and weighting means for weighting a received signal in accordance with a beam obtained by the beam steering antenna pattern control and with a beam obtained by the null steering antenna steering control.

Takai at Col. 3, lines 28-52 (emphasis added).

As explained in the quoted portions of Takai, the adaptive antenna array is coupled to the base station apparatus. In contrast, the wireless communication apparatus of claim 1 includes the adaptive antenna, not the base station. Thus, on this ground alone, Takai fails to disclose every element of claim 1 and therefore cannot anticipate claim 1.

Moreover, as explained in the quoted passage, the base station includes the means for forming a directivity pattern. In other words, in Takai, the base station includes both the adaptive antenna array and the means for controlling the directivity pattern of the antenna array. In contrast, in claim 1 a control signal is transmitted from the base station to the receiving portion of the wireless communication terminal to control the directivity of the wireless terminal's adaptive antenna. Thus, on this additional ground, Takai fails to disclose every element of claim 1 and therefore cannot anticipate claim 1.

None Of The Dependent Claims Are Anticipated By Takai

Takai does not anticipate any of the dependent claims. First, the dependent claims are not anticipated for the same reasons that claim 1 is not anticipated. For the following additional reasons, Takai does not anticipate the dependent claims.

Claim 2, which depends on claim 1, further requires the control portion to control the directivity of the adaptive antenna of the wireless communication device "by changing weighting of the beam steering and the null steering of said adaptive antenna." As explained, in Takai the weighting means resides within the base station and is used to control the adaptive antenna that is coupled to the base station. Moreover, the Office Action does not cite to any portion of Takai that expressly teaches or suggests that in Takai directivity is controlled "by changing weighting of the beam steering and the null steering of said adaptive antenna." As Applicant explains, beam steering and null steering may be effectively used to be compensate for the disadvantages of the other. Thus, for those additional reasons, claim 2 is not anticipated by Takai.

Claim 3, which depends on claim 1, further requires that the control portion control the directivity of the adaptive antenna "every frequency used by said wireless communication apparatus." The Office Action fails to cite to any portion of Takai that teaches this claimed aspect of claim 3. Thus, for that additional reason, claim 3 is not anticipated by Takai.

Claim 4, which depends on claim 1, further requires that the wireless communication apparatus include a "receiving quality monitoring portion for monitoring quality of a signal from said base station; and a quality information transmitting portion for transmitting information about quality of a receiving signal monitored by said receiving quality monitoring

portion to said base station, wherein said control portion controls the directivity of said adaptive antenna based on the control signal which said base station calculates based on the quality information." Takai fails to disclose those additional elements of claim 4. While the Office Action points to col. 12, lines 35-40 and col. 12, lines 40-44 in Takai, those portions do no disclose the additional elements of claim 4. Thus, for that additional reason, claim 4 is not anticipated by Takai

Claim 5, which depends on claim 1, further requires that the "control portion controls the directivity of said adaptive antenna based on the control signal which said base station produces according to the number of wireless communication apparatuses connected to said base station." As previously discussed the adaptive antenna is with the wireless communication terminal not the base station as in Takai. The Office Action does not cite to any portion of Takai that teaches or suggests this element of dependent claim 5. Applicant notes that the Office Action cites to col. 3, lines 53-64 of Takai; however, that cited portion of Takai does not teach or suggest the element of claim 5. Thus, for that additional reason, claim 5 is not anticipated by Takai.

Claim 6, which depends on claim 1, further requires that the "control portion controls the directivity of said adaptive antenna based on the control signal which said base station produces according to the amount of communication in said base station." The Office Action does not cite to any portion of Takai that teaches or suggests this element of dependent claim 6. Applicant notes that the Office Action cites to col. 3, lines 53-64 of Takai; however, that cited portion of Takai does not teach or suggest the element of claim 6. Thus, for that additional reason, claim 6 is not anticipated by Takai.

Claim 7, which depends on claim 1, further require that the wireless communication apparatus include "a battery remaining amount detection portion for detecting a remaining amount of a battery powering said wireless communication apparatus, wherein said control portion stops the control of the directivity of said adaptive antenna based on a result of comparison between a predetermined threshold value and the remaining amount of said battery detected by said battery remaining amount detection portion." The Office Action does not cite to any portion of Takai that teaches or suggests this element of dependent claim 7. Applicant notes that the Office Action cites to col. 11, lines 20-30 of Takai; however, that cited portion of Takai does not teach or suggest the element of claim 7. Thus, for that additional reason, claim 7 is not anticipated by Takai.

For at least the reasons set forth above, Applicant respectfully submits that this patent application is in condition for allowance. Reconsideration and prompt allowance of this application are respectfully requested.

The Examiner is urged to telephone Applicant's undersigned counsel at the number noted below if it will advance the prosecution of this application, or with any suggestion to resolve any condition that would impede allowance. In the event that any extension of time is required, Applicant petitions for that extension of time required to make this response timely.

Kindly charge any additional fee, or credit any surplus, to Deposit Account No. 50-0675, Order No. 848075-0077.

Respectfully submitted,

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